

where the deposit is white and calcareous, and it was a regular practice some few years ago to dredge the loch to the south of the island, and to use the mud for marling the land.

Loch Watten (see Plate III.).—Loch Watten, the largest of the Caithness lochs, is situated about midway between Wick and Thurso, the railway between those places running along its northern shore, and the main road skirting its southern shore. The loch trends in a north-west and south-east direction, with a slight sinuosity in the outline, the upper portion being narrower than the main body of the loch, and bending in a northerly direction. It is 3 miles in length, with a maximum breadth towards the lower end of three-quarters of a mile, the mean breadth being about half a mile. Its waters cover an area of about 930 acres, or about $1\frac{1}{2}$ square miles, and it drains directly an area of over 13 square miles, but since it receives the overflow from Loch Scarmclate its total drainage area is about $20\frac{1}{4}$ square miles. The maximum depth observed was 12 feet, and no fewer than thirty-six soundings were taken at this depth in the south-eastern half of the loch. The volume of water is estimated at 341 million cubic feet, and the mean depth at $8\frac{1}{2}$ feet. The loch was surveyed on October 8 and 9, 1902, when the elevation of the lake-surface was found to be 54·9 feet above the sea; when levelled by the officers of the Ordnance Survey on December 28, 1869, the elevation was 55·4 feet above sea-level. According to the miller at Watten, the wind sometimes perceptibly affected the level of the water, and after an easterly wind had been blowing strongly for some time it was impossible for him to work the mill, the water being driven before the wind and piled up at the north-west end. The water might rise 2 feet above, and fall 1 foot below, the level on the date of the survey.

Loch Watten may be described as a large, shallow, flat-bottomed basin, the deeper portion lying towards the south-eastern end, the water shoaling more gradually on proceeding towards the north-western end. The great majority of the soundings were taken in depths exceeding 5 feet, and more than one half of the lake-floor is covered by more than 10 feet of water. The mean depth of the entire basin is 70 per cent. of the maximum depth. The temperature of the surface water at 10 a.m. on October 8, 1902, was 49°·9 Fahr, and at 10 a.m. on October 9, the surface temperature was 49°·6, while a reading at 12 feet gave 49°·5.

Loch Hempriggs (see Plate III.).—Loch Hempriggs lies about 2 miles to the south-west of the town of Wick, and within a mile of the shores of the North Sea, though the outflowing stream pursues a long and devious course in a northerly direction before joining the Wick water on its way to the sea. The loch is irregularly subcircular in outline, and the maximum diameter from north to south and from east to west is in each case about three-quarters of a mile. The superficial area is about